Atty. Docket No. YOR920010539US1
(590.076)

## REMARKS

Please note the fact that June 4, 2005, fell on a Saturday ensures that this paper is timely filed as of today, Monday, June 6, 2005 (the next succeeding business day).

Applicants and the undersigned are most grateful for the time and effort accorded the instant application by the Examiner. The Office is respectfully requested to reconsider the rejection present in the outstanding Office Action in light of the following remarks.

Claims 1-21 were pending in the instant application at the time of the outstanding Office Action. Of these claims, Claims 1, 11, and 21 are independent claims; the remaining claims are dependent claims. Claims 1, 6, 9, 11, 16, 17, 19, and 21 have been rewritten. Applicants intend no change in the scope of the claims by the changes made by these amendments. It should also be noted these amendments are not in acquiescence of the Office's position on allowability of the claims, but merely to expedite prosecution.

Claims 1-21 stand rejected under 35 USC § 101 with the Office asserting the claims are directed to non-statutory subject matter. Claims 6, 9 16-17, and 19 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point our and distinctly claim the subject matter which applicant regards as the invention. Independent Claims 1, 11 and 21 have been rewritten to recite "clustering of speech and audio data", as suggested by the Office. Dependent Claims 6, 9, 16-17 and 19 have been rewritten to recite 'probability distribution" as suggested by the Office. Thus, it is respectfully submitted these rejections have been obviated.

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Claims 1-3, 11-13, and 21 stand rejected under 35 USC § 102(e) as being

anticipated by Passera. Reconsideration and withdrawal of this rejection is respectfully

requested.

The present invention broadly contemplates, in accordance with at least one

presently preferred embodiment, an apparatus for facilitating data clustering. (Page 3,

lines 4-5) The present invention has the ability to obtain input data. (Page 3, lines 5-6)

Upon obtaining the input data, the present invention is able to create a predetermined

number of non-overlapping subsets of the input data. (Page 3, lines 6-7) The creation of

the predetermined number of non-overlapping subsets of the input data may be done in a

recursive manner using eigen-decomposition to repeatedly split the data sets. (Page 5,

lines 3-15) An application of the instant invention includes the enhancement of a

procedure such as the enrollment of target speakers in a speaker verification system by

speeding up the training time in the system. (Page 8, lines 1-4) Thus, the present

invention facilitates efficient data clustering based on recursion using eigen-

decomposition to split the data into separate clusters.

As best understood, the invention set forth by Passera contemplates a system for

creating a description of a model system's behavior by analyzing the sensitivity of the

model in subspaces of an input space of the model. (Column 2, lines 1-4) The sensitivity

analysis provides a profile of the input space of the model corresponding to the sensitivity

of the outputs of the model with respect to the inputs to the model. (Column 2, lines 4-7)

Through the analysis and creation of the sensitivity profile, the input space is recursively

divided into a predetermined number of subspaces. (Column 4, lines 58-63)

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The sensitivity analysis system of Passera is in stark contrast to the present

invention. As discussed in the specification and in the independent claims, the instant

invention obtains input data and facilitates data clustering of that input data independent

of any system or model. Passera contends that an output of his invention features the

splitting of the input data to a model.

It is respectfully submitted that Passera clearly falls short of present invention (as

defined by the independent claims) in that, *inter alia*, it does not disclose facilitating data

clustering of input data independent of any system. Accordingly, Applicants respectfully

submit that the applied art does not anticipate the present invention because, at the very

least, "[a]nticipation requires the disclosure in a single prior art reference of each element

of the claim under construction." *W.L. Gore & Associates, Inc. v. Garlock*, 721 F.2d

1540, 1554 (Fed. Cir. 1983); *see also In re Marshall*, 198 U.S.P.Q. 344, 346 (C.C.P.A.

1978).

Claims 4-10 and 14-20 stand rejected under 35 USC § 103(a) as obvious over

Passera in view of Kuhn et al. Specifically the Office asserted that "[i]t would have been

obvious ... to use eigenvector decomposition via data clustering in order to improve

speed and efficiency at which speaker and environment adaptation is performed."

Reconsideration and withdrawal of the present rejection is hereby respectfully requested.

A 35 USC 103(a) rejection requires that the combined cited references provide

both the motivation to combine the references and an expectation of success. Not only is

there no motivation to combine the references, no expectation of success, but actually

combining the references would not produce the claimed invention. Thus, the claimed invention is patentable over the combined references and the state of the art.

Kuhn et al. does not overcome the deficiencies of Passera set forth above. In that regard, Kuhn et al applies the eigenvector decomposition to speaker specific supervectors in order to determine a feature space to represent speaker models. Kuhn et al. deals with speaker and environment adaptation, which is fundamentally different from the data clustering and sensitivity analysis set forth in Passera. There is no natural connection from the supervectors of Kuhn et al. to the input spaces of Passera. Additionally, there is no such connection to the instant invention, in which the eigen decomposition is applied to raw data that is independent of any system. Thus, it is respectfully submitted that the combination of Passera with Kuhn et al would not produce the claimed invention.
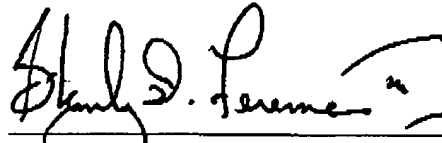
In view of the foregoing, it is respectfully submitted that independent Claims 1, 11, and 21 fully distinguish over the applied art and are thus allowable. By virtue of dependence from Claim 1, it is thus also submitted that Claims 2-10 and 12-20 are also allowable at this juncture.

The "prior art made of record" has been reviewed. Applicants acknowledge that such prior art was not deemed by the Office to be sufficiently relevant as to have been applied against the claims of the instant application. To the extent that the Office may apply such prior art against the claims in the future, Applicants will be fully prepared to respond thereto.

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In summary, it is respectfully submitted that the instant application, including

Claims 1-21, is presently in condition for allowance. Notice to the effect is hereby

earnestly solicited. Applicants' undersigned attorney would welcomes further discussion

with the Office in the event there are any further issues in this application.

Respectfully submitted,

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